

Retrospective memory for breathlessness and pain.

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Background

Patient reports and questionnaire data on symptoms mostly rely on retrospective memory. Comparisons of concurrent (through experience sampling) and retrospective reports typically have no control over actual experiences. Also, individual differences in retrospective symptom reporting after experimental symptom inductions have not been systematically investigated. In the present study, we investigated retrospective memory for two experimentally induced symptoms, namely breathlessness and pain, in high (HSR) and low habitual symptom reporters (LSR).

Method

Healthy women (N=48; 24HSR/24LSR) participated in (a) two trials of a rebreathing paradigm, leading to a gradual increase in PCO₂, ventilation and breathlessness, and (b) two trials of a modified cold pressor task. Dyspnea and pain inductions were administered in two separate sessions and participants were counterbalanced across eight trial orders. Dyspnea and pain ratings were collected at four times: (1) continuously during symptom induction, (2) after each trial, (3) after the experiment, and (4) after 2 weeks. State NA and state anxiety were measured after every trial.

Results

Dyspnea induction resulted in higher state NA and anxiety than pain induction. Retrospective evaluations were overall higher than concurrent evaluations, but differences between dyspnea and pain emerged. While retrospective dyspnea ratings were equally overestimated by both groups, the recalled pain ratings were higher in HSR than in LSR. Moreover, a further increase in overestimation over time was only found for breathlessness ratings in HSR.

Discussion

Our results show that even though retrospective evaluations of both breathlessness and pain are distorted, the type of bias clearly differs between the symptoms. The findings suggest the relevance of unpleasantness of the experience for memory processes, such that in less aversive inductions individual differences play a more pronounced role. Moreover, the observed increase of dyspnea overestimation over time is important for diagnostic assessment based on symptom reporting.

Keywords: symptom memory, habitual symptom reporting